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ABSTRACT

Recent years have witnessed an increased emphasis on the professional development of undergraduate psychology students. One major thrust of this professional development has been on research that results in a convention presentation or journal publication. Research leading to journal publication is becoming a requirement for admission to many graduate programs. It is therefore important to assist undergraduate students in the accumulation of skills required to conduct research and to write articles for publication. To help students in these efforts, several exercises involving the use of a journal that only publishes undergraduate students' research were conducted. The journal is intended to teach students about statistical, design, and American Psychological Association (APA)-format issues for empirical studies and literature reviews. Participants for this study were students in statistics, research methods, and personality classes at private and public universities in Nebraska, Kansas, and Arkansas. Students were asked to perform eight exercises. Their narrative reactions to the exercises indicated that they found the journal articles written by undergraduates helpful in gaining insight into the uses of statistical techniques and research methods, as well as clarification about APA-style writing. (MKA)

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Running head: STUDENT PUBLICATIONS AND TEACHING

Student Publications Enhance Teaching

Experimental Psychology and Research Methods Courses

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Abstract

The purpose of this poster was to describe and evaluate several exercises involving the use of a journal that only publishes undergraduate students' research to teach students about statistical, design, and APA-format issues for empirical studies and literature reviews. Participants were students in statistics, research methods, and personality classes at private and public universities in Nebraska, Kansas, and Arkansas. The poster describes four of eight exercises that the authors developed. Students' narrative reactions to the exercises indicated they that found journal articles written by undergraduates helpful gaining insight into the use of statistical techniques and research methods, as well as clarification about APA-style writing. Prospects for future research are described.

Student Publications Enhance Teaching

Experimental Psychology and Research Methods Courses

Recent years have witnessed an increase in emphasis placed on professional development of undergraduate psychology students. One major thrust of this professional development has been on research that results in a convention presentation or journal publication.

The importance of such tangible accomplishments was reflected by Keith-Spiegel, Tabachnick, and Spiegel (1994) who reported that research leading to a journal publication was the most important second-order criterion used for admission to graduate school. Research leading to a convention presentation was the third most important second-order criterion.

With such emphasis placed on research leading to publication, one is not surprised to find that educators have established several journals devoted to the publication of student research. Among these journals are Modern Psychological Studies, Journal of Psychological Inquiry, Psi Chi Journal of Undergraduate Research, and Der Zeitgeist, an on-line publication.

Because these journals feature research reports by student authors, articles may be easier to read, more understandable, and more interesting to undergraduate students. Use of student journals can serve as valuable teaching aids for a variety of topics. This poster describes and evaluates several exercises involving the use of one such journal. The purpose of the exercises was to teach students about statistical, design, and APA-format issues for empirical studies and literature reviews.

Method

Participants

Students in statistics, research methods, and personality classes at private and public universities in Nebraska, Kansas, and Arkansas used the Journal of Psychological

Inquiry (JPI) as an ancillary material for their courses. Class size varied from about 15 to 30 students each.

Exercises

The exercises include basic ones conducted early in courses to more advanced ones conducted toward the end of courses. Being able to complete each exercise with 15-25 min makes them ideal for class use throughout the academic term.

Exercise 1 - IVs, DVs, Extraneous Variables. This exercise is conducted early in the semester as the students are being introduced to the "nuts and bolts" of research (i.e., IVs, DVs, extraneous variables, and experimental hypotheses). Two to four articles, depending on the size of the class, are assigned as required reading for all students two class periods prior to conducting the exercise. Students are required to read only the Introduction and Method sections. The exercise consists of having students break into small groups of three or four for 10-15 min. During this time, each group is assigned a specific task, such as identifying the IVs, DVs, or extraneous variables in one or more of the articles. Of course, one can easily envision different assignment configurations and elaborations. At the conclusion of the assigned period, a spokesperson from each group reports to the class on that group's discussion.

Exercise 2- Control Procedures. This exercise is also conducted in small groups and can easily employ the same articles used in Exercise 1. In this exercise, the groups are instructed to determine the control procedures employed in the article assigned to their group. These findings are then reported to the entire class.

Exercise 3 - Experimental Design. As in Exercises 1 and 2, the class breaks into small groups. The assignment for this exercise is to determine the type of experimental design used in the article.

Exercise 4: APA Format I - Working Backwards on the Title Page and Abstract. Groups or individual students are assigned to a specific article and given the task of producing the APA format title and abstract pages for that article. The finished products are

discussed and circulated to the entire class. This exercise can be adapted for use with other sections of the paper and is especially effective when used with the Reference section.

Exercise 5 - APA Format II - Reading, and Understanding Results. Individual students or small groups devote 10 min examining the Results section of their article. The goals are to determine (a) what statistical test was used, (b) the appropriateness of the test, and (c) why (why not) the test was appropriate. The results of these deliberations and a consideration of the organization and flow of the Results section are shared with the rest of the class.

Exercise 6 - APA Format III - Discussion Section. Individual students or small groups are instructed to determine the following about the Discussion section of the articles they were assigned. Does this section: (a) restate the results of the project, (b) relate the results to the research hypothesis, (c) relate the results to previous research, (d) relate the results to theory, and (e) present the material in an understandable manner that flows logically? The results of these deliberations are shared with the rest of the class. We have found this exercise may require 20 min of group processing time.

Exercise 7 - APA Format IV - Abstract. After reading and dissecting the separate components of an entire article, small groups or individual students are instructed to spend approximately 10 min to determine the abstract's level of clarity and the extent to which it conveys sufficient information. Conclusions are shared with the rest of the class.

Exercise 8 - APA Format V - Checking for Errors. Individual student or small groups spend 10-15 min perusing the assigned article for deviations from APA-format, grammatical, and typographical errors. Instructors should also encourage students to note suggestions for other improvements. Findings are shared with the class. A variation on this exercise consists of the instructor using an article to illustrate several examples of appropriate APA-style particularly with regard to expression of ideas and APA editorial style (Chapters 2 and 3 in the Publication Manual).

Procedure

Instructors used one or more of the previous exercises to illustrate use of statistical, design, and APA-format issues for empirical studies and literature reviews. Although these exercises are described in terms of in-class projects, they are easily adapted for homework exercises. Instructors did not use all exercises in all classes. For example in the statistics classes, the emphasis was on Exercises 1 and 5. In the personality class, the emphasis was on Exercises 7 and 8.

At the conclusion of the exercise, or as soon as possible thereafter, students responded to open-ended questions regarding what they had learned from the exercises. The use of less structured questions at this early stage of investigation permitted acquisition of information about students' impressions about using undergraduate journals for learning about statistics, research design, and APA-format. Such information can be used to design more structured and quantitatively formatted questions at a subsequent stage of investigation.

Results

This poster concentrates on students' narrative responses to selected exercises. Typical responses are listed below.

Exercise 1

"I learned how to apply the concepts from class in real test situations. It also helped me learn to pick out the independent and dependent variables."

"It helped to read about studies that had actually been published. It was frustrating however because it was difficult for me to pick out all the IVs and DVs."

Exercise 5

"In JPI, the statistics demonstrated a real life application on a larger scale. I have seen how it fits into the big picture and also that it is not just a class on the way to your degree."

"I can learn how to apply the statistics to research. I wish we would have used more articles because that is why I am taking this class, to be able to analyze different research articles."

"That the individual methods of statistics (correlation, ANOVA, etc.) all mean something. It helped us use what we've learned so far in class. It helps us make sense of the concepts."

"I learned the format for how tests were conducted and written. The test show how to use different tests in different situations, and I learned how important the smallest details may be."

Exercise 7

"I learned what to include in the abstract of the paper."

"I have problems with the abstract so the review of what goes into an abstract was helpful."

"Write the abstract last"

Exercise 8

"The difference between passive voice and active voice. Reinforced that active is better."

"I learned (more specifically) when not to use passive voice."

"Use of this/these as modifiers."

"I learned when to use the word 'that' verses the word 'which.' "

"Appropriate language such as since verses because, and while verses although."

"The differences between since, because, and due to."

"Seriation - way to order items in a paper using letters [(a), (b), (c)] instead of numbers."

"The determining factor for block indentation verses quotes is 40 words, not four lines."

General Comments

Likes. "By using JPI, a person is able to gather information about different types of research being done. Also, it helps out students who have trouble putting classroom concepts together, it helps them to apply the concepts to everyday life."

"Undergraduate research can be published."

"It gave me an idea of what to shoot for."

"It gave us real examples of student research to evaluate and use as examples."

"It showed what other students were doing & that they do get published."

"Using the JPI articles actually helped clear up some of the concepts we learned. Applying them to articles helped me a lot because the articles gave 'layman's' wording to explain the results."

Dislikes. "They were pretty boring, although we survived."

"It was hard to understand at the beginning of the semester."

"Some were hard to understand still."

"Some of the articles were using big words and that made it harder to understand the articles."

Suggestions. "Yes, continue to do so."

"I would keep using it, I realize it is not your fault what topics they choose!"

"Keep using them. I believe they are worth it in the end!"

"Maybe have students read one before and after the semester to let them see what they learned."

Discussion

Students in the present study reported that using articles published by other students helped them gain insight into the use of statistical techniques and research methods, as well as clarification about APA-style writing. Moreover, anecdotal evidence indicates fewer difficulties with preparation of APA-format papers since implementing the journal exercises. The authors do not recommend replacing conventional text for teaching such lessons but rather encourage teachers to use structured exercises and student publications to supplement standard texts.

Limitations of the present study include a failure to pre- and posttest students and to identify specific skills and knowledge about content areas and APA-style writing. Encouraged by the preliminary findings, the authors recommend developing assessment

tools to examine more thoroughly the benefits of the pedagogical techniques described in this study. With such tools, investigators could determine the relative merits of using student and professional publications as models for students' learning. Finally, the use of these journals may encourage students to participate in the scholarly process by trying to publish the results of their own research.

Reference

Keith-Spiegel, P., Tabachnick, B. G., & Spiegel, G. B. (1994). When demand exceeds supply: Second-order criteria used by graduate school selection committees. Teaching of Psychology, 21, 79-81.